Notice of Allowability	Application No. 10/085,780	Applicant(s) FRIEDEN ET AL.	
	Examiner Sathyanarayan Pannala	Art Unit 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *7/22/2005*.

2. ☒ The allowed claim(s) is/are *1,3-4,6-8, 14-17,19-20,22-24, 30-33,35-36,38-40,46-49,51-52,54-56 and 62-64, now renumbered as1-36*.

3. ☒ The drawings filed on *28 February 2002* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *8/5/2005*.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

MOHAMMAD ALI
PRIMARY EXAMINER

SRP
Sathyanarayan Pannala
Patent Examiner
Art Unit 2167

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/2005 has been entered.

2. Applicant's Amendment filed on 7/22/2005 has been entered with amended claims 1, 14, 17-18, 30, 33-34, 46, 49-50, 62. In this Office Action, claims 1, 3-4, 6-8, 14-17, 19-20, 22-24, 30-33, 35-36, 38-40, 46-49, 51-52, 54-56 and 62-64 are renumbered for sequencing as 1-36 and allowed.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Andrew V. Smith on 8/5/2005.

The application has been amended as follows:

Replace the claims as:

Claim1:

Claim 1 (currently amended): A computer implemented method for retrieving a record in a hierarchical set of records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record,

wherein applying comprises selecting those of the records in the hierarchical set of the records having a tag that matches the key, and

wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

modifying the tag comprises:

selecting at least one of the digits according to the command from the user; and

changing the value of the selected digits according to the command from the user.

Claim 2:

(canceled)

Claim 5:

(canceled)

Claim 14:

Claim 14 (currently amended): A computer implemented method for selecting a record in a hierarchical set of records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records; ~~and~~

indexing the hierarchical set of records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the modified tag to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Claim 17:

Claim 17 (currently amended): At least one computer programmed to execute a process for retrieving records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the process comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record

wherein applying comprises selecting those of the records in the hierarchical set of the records having a tag that matches the key, and

wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

modifying the tag comprises:

selecting at least one of the digits according to the command from the user; and

changing the value of the selected digits according to the command from the user.

Claim 18:

(canceled)

Claim 21:

(canceled)

Claim 30:

Claim 30 (currently amended): At least one computer programmed to execute a process for selecting records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the process comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records; ~~and~~

indexing the hierarchical set of records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the modified tag to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Claim 33:

Claim 33 (currently amended): An apparatus for retrieving records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of

hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the apparatus comprising:

means for identifying one of the records in the hierarchical set of records;

means for selecting a second record by indicating a relational characteristic of the identified record, wherein the relational characteristic comprises a depth relationship or a level relationship or both;

means for modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

means for indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein means for indexing the hierarchical set of ~~the~~ records only once comprises means for applying the key to the hierarchical set of records; and

means for retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record

wherein means for applying comprises means for selecting those of the records in the hierarchical set of the records having a tag that matches the key, and

wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

means for modifying the tag comprises:

means for selecting at least one of the digits according to the command from the user; and

means for changing the value of the selected digits according to the command from the user.

Claim 34:

(canceled)

Claim 37:

(canceled)

Claim 46:

Claim 46 (currently amended): An apparatus for selecting records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the apparatus comprising:

means for identifying one of the records in the hierarchical set of records;

means for selecting a second record by indicating a relational characteristic of the identified record, wherein the relational characteristic comprises a depth relationship or a level relationship or both;

means for modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records; ~~and~~

means for indexing the hierarchical set of records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the modified tag to the hierarchical set of records; and

means for retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Claim 49:

Claim 49 (currently amended): Computer-readable storage media embodying instructions executable by a computer to perform a method for retrieving records in a

hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records, thereby producing a key corresponding to the second record that is related to the identified record by the relational characteristic;

indexing the hierarchical set of the records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the key to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record

wherein applying comprises selecting those of the records in the hierarchical set of the records having a tag that matches the key, and

wherein:

each tag is a number having a plurality of digits;

the position of each of the digits represents one of the hierarchical depths;

the value of each of the digits represents one of the hierarchical levels; and

modifying the tag comprises:

selecting at least one of the digits according to the command from the user; and

changing the value of the selected digits according to the command from the user.

Claim 50:

(canceled)

Claim 53:

(canceled)

Claim 62:

Claim 62 (currently amended): Computer-readable storage media embodying instructions executable by a computer to perform a method for selecting records in a hierarchical set of the records having a plurality of hierarchical levels and a plurality of hierarchical depths, each of the records having a tag that is unique within the hierarchical set of the records, the method comprising:

identifying one of the records in the hierarchical set of records;

selecting a second record by indicating a relational characteristic of the identified record that comprises a depth relationship or a level relationship or both;

modifying the tag based on the relational characteristic and a predetermined numeric mapping of related records; ~~and~~

indexing the hierarchical set of records only once, thereby selecting the second record within the hierarchical set of records, wherein indexing the hierarchical set of records only once comprises applying the modified tag to the hierarchical set of records; and

retrieving the selected records, and

wherein the key comprises a second tag uniquely identifying the second record.

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance:

- Prior art of record fails to teach selecting a second record by indicating a relational characteristic of the identified record that comprises a depth

relationship or a level relationship or both. This claimed element is in independent claims 1, 14, 17, 30, 33, 46, 49 and 62.

- Exley et al. (US Patent 5,724,577) teaches a computer data organization method in which data is organized in a hierarchical outline with each data element in the outline having a key field in which an identifier is inserted which is unique to that data element. Data related to each data element in the hierarchical outline are stored in a relational data base table with the unique key identifier of the hierarchical data element to which it is related inserted in a key index column. Whereas Shadmon et al. (US Patent 5,761,680) teaches a method for obtaining a balanced digital tree structure. The digital tree structure including a first vertical oriented digital tree structure that is susceptible to unbalanced structure of blocks due to modify transactions.
- Applicant's argument in the in the Remarks filed on 7/22/2005 on page 29, paragraph 1 is persuasive and convincing.
- Applicant agreed and approved on 8/5/2005 to do Examiner's Amendment in order to expedite the prosecution of the application, see Interview Summary for details.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sathyanarayan Pannala whose telephone number is (571) 272-4115. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SRP
Sathyanarayan Pannala
Examiner
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srp
July 7, 2005

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PRIMARY EXAMINER